

WHAT IS CLAIMED IS:

1. A method for retrofitting a keyboard musical instrument to an automatic player keyboard instrument, comprising the steps of:
 - a) preparing an automatic playing system to be assembled with a keyboard musical instrument, which includes a cabinet having a stationary board, a keyboard having plural keys and mounted on said stationary board and a tone generating system responsive to a fingering on said keyboard for generating tones;
 - b) marking at least one reference seal in said stationary board at a certain position determined on the basis of said keyboard so that said at least one reference seal is related to said keyboard;
 - c) making a gadget related to said keyboard through said at least one reference seal;
 - d) forming holes at target positions in said stationary board by means of said gadget already related to said keyboard so that said holes are exactly located below said keys, respectively, and
 - e) assembling a key drive unit of said automatic playing system with said stationary board in such a manner that plural plungers of said key drive unit pass through said holes, respectively.
2. The method as set forth in claim 1, in which said step b) includes the sub-steps of

b-1) forming at least two locator on said stationary board at certain positions determined on the basis of said keyboard mounted on said stationary board by means of a marking tool attached to said keyboard, and

b-2) marking said at least one reference seal at said certain position determined on the basis of said at least two locators.

3. The method as set forth in claim 1, in which said step b) includes the sub-steps of

b-1) forming at least two locators on said stationary board at certain positions determined on the basis of said keyboard mounted on said stationary board by means of a marking tool attached to said keyboard,

b-2) aligning counter marks of a template with said at least two locators so as to determine said certain position for said at least one reference seal, and

b-3) marking said at least one reference seal at said certain position.

4. The method as set forth in claim 1, in which said step c) includes the sub-steps of

c-1) aligning at least one counter seal already provided on said gadget with said at least one reference seal, and

c-2) fixing said gadget to a position at which said at least one counter seal is aligned with said at least one reference seal.

5. The method as set forth in claim 1, in which said step d) includes the sub-steps of

d-1) aligning a cutting tool of said gadget with one of said target positions determined on the basis of said at least one reference sign and pieces of positional data representative of a relation among said keys,

d-2) boring the hole at said one of said target positions in said stationary board by means of said cutting tool,

d-3) moving said cutting tool to another of said target positions for boring another of said holes, and

d-4) repeating said sub-step d-3) until the last hole is bored in said stationary board.

6. The method as set forth in claim 5, in which said sub-step d-1) includes the sub-steps of

d-1-1) aligning a pointer of said cutting tool with one of positioning marks formed on a template already prepared on said gadget, said positioning marks making a distance between at least one counter seal formed on said gadget and said cutting tool equal to a distance between said at least one reference seal and said target positions, and

d-1-2) fixing said pointer to said one of said positioning marks so that said cutting tool get ready to bore said hole at said one of said target positions.

7. A method for forming holes in a stationary board where a keyboard is to be mounted, comprising the steps of:

- a) marking at least one reference seal in said stationary board at a certain position determined on the basis of said keyboard so that said at least one reference seal is related to said keyboard;
- b) making a gadget related to said keyboard through said at least one reference seal; and
- c) forming holes at target positions in said stationary board by means of said gadget already related to said keyboard so that said holes are exactly located below keys of said keyboard, respectively.

8. The method as set forth in claim 7, in which said step a) includes the sub-steps of

a-1) forming at least two locator on said stationary board at certain positions determined on the basis of said keyboard mounted on said stationary board by means of a marking tool attached to said keyboard, and

a-2) marking said at least one reference seal at said certain position determined on the basis of said at least two locators.

9. The method as set forth in claim 7, in which said step a) includes the sub-steps of

a-1) forming at least two locators on said stationary board at certain positions determined on the basis of said keyboard mounted on said stationary board by means of a marking tool attached to said keyboard,

a-2) aligning counter marks of a template with said at least two locators so as to determine said certain position for said at least one reference seal, and

a-3) marking said at least one reference seal at said certain position.

10. The method as set forth in claim 7, in which said step b) includes the sub-steps of

b-1) aligning at least one counter seal already provided on said gadget with said at least one reference seal, and

b-2) fixing said gadget to a position at which said at least one counter seal is aligned with said at least one reference seal.

11. The method as set forth in claim 7, in which said step c) includes the sub-steps of

c-1) aligning a cutting tool of said gadget with one of said target positions determined on the basis of said at least one reference sign and pieces of positional data representative of a relation among said keys,

c-2) boring the hole at said one of said target positions in said stationary board by means of said cutting tool,

c-3) moving said cutting tool to another of said target positions for boring another of said holes, and

c-4) repeating said sub-step c-3) until the last hole is bored in said stationary board.

12. The method as set forth in claim 11, in which said sub-step c-1) includes the sub-steps of

c-1-1) aligning a pointer of said cutting tool with one of positioning marks formed on a template already prepared on said gadget, said positioning marks making a distance between at least one counter seal formed on said gadget and said cutting tool equal to a distance between said at least one reference seal and said target positions, and

d-1-2) fixing said pointer to said one of said positioning marks so that said cutting tool get ready to bore said hole at said one of said target positions.

13. A gadget for forming holes at target positions in a stationary board of a keyboard musical instrument marked with at least one reference seal at a certain position determined on the basis of a keyboard incorporated in said keyboard musical instrument, comprising:

a boring unit movable in an area where said keyboard musical instrument stands, and having a cutting tool movable toward said stationary board for boring said holes in said stationary board;

an adjusting device making said boring unit related to said keyboard through said at least one reference seal; and

a positioning device moving said cutting tool to said target positions, said target positions being determined on the basis of said at least one reference seal and pieces of positional data representative of a relation between keys incorporated in said keyboard so that said holes are exactly located below said keys, respectively.

14. The gadget as set forth in claim 13, in which said boring unit further has

a tool table fixed to a certain spot where said cutting tool is related to said keyboard through said at least one reference seal, said adjusting device and a part of said positioning device being fixed thereto, and

a movable table two-dimensionally movable on said tool table and carrying said cutting tool and another part of said positioning device so that said cutting tool is aligned to said target positions through an engagement between said part and said another part.

15. The gadget as set forth in claim 14, in which a template formed with positioning marks and a pointer serve as said part and said another part, respectively, and in which said positioning marks making a distance between said adjusting device and said cutting tool equal to a distance between said at least one reference seal and said target positions.

16. The gadget as set forth in claim 15, in which positioning holes formed in said template and a lock pin engageable with said positioning holes serve as said positioning marks and said pointer, respectively.

17. The gadget as set forth in claim 13, in which said adjusting device is formed by at least one counter seal to be aligned with said at least one reference seal.

18. The gadget as set forth in claim 17, in which holes formed in said stationary bed and poles upright on said boring unit serve as said at least one

reference seal and said at least counter seal, respectively, and said poles are inserted into said holes so as to make said boring unit related to said keyboard.

19. The gadget as set forth in claim 13, in which said positioning device includes

a template formed with positioning marks and stationary to said adjusting device, and

a pointer provided on said boring unit and engageable with said positioning marks for so as to make said cutting tool aligned with said target positions.

20. The gadget as set forth in claim 19, in which said positioning marks make a distance between said adjusting device and said cutting tool equal to a distance between said at least one reference seal and said target positions.

21. The gadget as set forth in claim 19, in which positioning holes formed in said template and a lock pin provided on said boring unit and insertable into said positioning holes serve as said positioning marks and said pointer, respectively.